

WHAT IS CLAIMED IS:

1 b) 1. A process for sealing and insulating a fuel cell plate, the process comprising:  
2 providing a fuel cell plate having first and second surfaces;  
3 applying a coating precursor on at least the first surface of the fuel cell plate, the  
4 coating precursor adapted to polymerize or to cross-link in response to infrared radiation or  
5 heat; and  
6 exposing the coating precursor on the fuel cell plate to infrared radiation or to heat to  
7 initiate polymerization or cross-linking.

1 2. The process of claim 1, wherein the coating precursor is applied by screen  
2 printing.

1 3. The process of claim 1, wherein the coating precursor is exposed to infrared  
2 radiation.

1 4. The process of claim 1, wherein the coating precursor is exposed to infrared  
2 radiation or to heat for about less than about forty five minutes.

1 5. The process of claim 1, wherein the coating precursor is exposed to infrared  
2 radiation or to heat for about less than about thirty minutes.

1 6. A process for sealing and insulating a fuel cell plate, the process comprising:  
2 providing a fuel cell plate having first and second surfaces;  
3 applying a coating precursor on at least the first surface of the fuel cell plate, the  
4 coating precursor adapted to polymerize or to cross-link in response to infrared radiation; and  
5 exposing the coating precursor on the fuel cell plate to infrared radiation or to heat to  
6 initiate polymerization or cross-linking, wherein the coating precursor includes an epoxy  
7 resin and an acrylonitrile butadiene copolymer.

1 7. The process of claim 6, wherein the coating precursor includes a cross-linking  
2 agent.

1 8. The process of claim 7, wherein the cross-linking agent is a polyamine.

1 9. The process of claim 6, wherein the coating precursor includes a  
2 thermoplastic.

1 10. The process of claim 9, wherein the thermoplastic is polyvinylchloride resin.

1 11. The process of claim 6, wherein the coating precursor includes a solvent.

1 12. The process of claim 6, wherein the coating precursor includes a colorant.

1 13. The process of claim 6, wherein the coating precursor includes an air-release  
2 agent.

1 14. The process of claim 6, wherein the coating precursor includes slip agent.

1 15. An insulated fuel cell plate comprising:  
2 a plate having first and second surfaces; and  
3 a solid coating adhering to at least one of the first and second surfaces of the plate, the  
4 solid coating comprising an epoxy nitrile resin.

1 16. The insulated fuel cell plate of claim 15, wherein the solid coating is less than  
2 about 250  $\mu$  thick.

1 17. The insulated fuel cell plate of claim 15, wherein the solid coating is less than  
2 about 150  $\mu$  thick.

1 18. An insulated fuel cell plate comprising:  
2 a plate having first and second surfaces; and  
3 a coating precursor applied on at least one of the first and second surfaces of the plate,  
4 the coating precursor comprising:  
5 an epoxy resin;  
6 an acrylonitrile butadiene copolymer;  
7 a thermoplastic film-former;  
8 a polyamine cross-linking agent; and  
9 a solvent.

1 19. The insulated fuel cell plate of claim 18, wherein the thermoplastic film-  
2 former is a polyvinylchloride resin.

1 20. The insulated fuel cell plate of claim 18, wherein the coating precursor  
2 includes a colorant.

1 21. The insulated fuel cell plate of claim 18, wherein the coating precursor  
2 includes an air-release agent.

1 22. The insulated fuel cell plate of claim 21, wherein the air-release agent is a  
2 polydimethylsiloxane.

1 23. The insulated fuel cell plate of claim 18, wherein the coating precursor  
2 includes a slip-aid.

1 24. The insulated fuel cell plate of claim 23, wherein the slip-aid is a  
2 polytetrafluoroethylene powder.

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